Please add the following new claims:

1 ~~83~~ (New). A biosensor comprising a rehydratable membrane obtained by separating an aqueous bathing solution from a lipid membrane in contact with the solution in a manner that prevents the lipid membrane from coming into contact with an air-water interface, the lipid membrane incorporating ionophores and optionally receptor molecules and having a conductivity that is dependent on the presence or absence of an analyte, the rehydratable membrane being such that on rehydration, the lipid membrane and any receptor molecules retain their function, structure and activity.

2 ~~84~~ (New). A biosensor according to claim 1 ~~83~~, wherein the aqueous bathing solution is removed by a drying method selected from the group consisting of lyophilysation, evaporation and evaporation over controlled humidity.

3 ~~85~~ (New). A biosensor according to claim 1 ~~83~~, wherein the aqueous bathing solution is replaced by a water-replacing substance.

6 ~~86~~ (New). A biosensor according to claim 3 ~~85~~ further comprising the step of subjecting the lipid membrane to a drying method selected from the group consisting of lyophilysation, evaporation and evaporation over controlled humidity.

7 ~~87~~ (New). A biosensor according to claim 3 ~~85~~, wherein the water-replacing substance is selected from the group consisting of protein, low molecular weight diols, low molecular weight triols, polyethylene glycol, low molecular weight sugars, polymeric peptides, polyemelectrolyte and combinations thereof.

8 ~~88~~ (New). A biosensor according to claim 3 ~~85~~, wherein the water-replacing substance further provides a spreading layer for a sample or component thereof.

9 ~~89~~ (New). A biosensor according to claim ~~85~~ 83, wherein the water-replacing substance further acts as a filter against a sample or component thereof selected from the group consisting of specific cells, bacteria, viruses and classes of molecules.

10 ~~90~~ (New). A biosensor according to claim ~~89~~ 9, wherein the water-replacing substance further acts as a filter against large molecular weight proteins.

11 ~~91~~ (New). A biosensor according to claim ~~85~~ 3, wherein the water-replacing substance further provides a reservoir for specific displacement reagents that complete with small analytes on proteins to which they are bound.

12 ~~92~~ (New). A biosensor according to claim ~~85~~ 3, wherein the water-replacing substance is covalently bound to membrane components.

13 ~~93~~ (New). A biosensor according to claim ~~92~~ 12, wherein membrane components are membrane spanning lipids.

14 ~~94~~ (New). A lipid based biosensor formed by rehydrating the membrane of a biosensor according to claim ~~85~~ 1.

15 ~~95~~ (New). A biosensor comprising a rehydratable membrane formed by removing an aqueous solution with which a lipid membrane has been in contact, the lipid membrane incorporating ionophores and optionally receptor molecules and having a conductivity that is dependent on the presence or absence of an analyte, wherein the rehydratable membrane is such that on rehydration, the lipid membrane and any receptor molecules retain their function, structure and activity.

62 16 ~~96~~ (New). A biosensor suitable for dry storage comprising a rehydratable membrane, said membrane comprising:

(a) a lipid membrane incorporating ionophores and optionally receptor molecules and having a conductivity that is dependent on the presence or absence of an analyte; and

(b) a water-replacing substance.

17 ~~97~~ (New). A biosensor according to claim 16, wherein the water-replacing substance is selected from the group consisting of protein, low molecular weight diols, low molecular weight triols, polyethylene glycol, low molecular weight sugars, polymeric peptides, polyemelectrolyte and combinations thereof.

18 ~~98~~ (New). A biosensor according to claim 16, wherein the water replacing substance is selected from the group consisting of bovine serum albumin, serum, fish gelatin, non-fat dry milk powder, casein, glycerol, ethylene glycol, diethylene glycol, polyethylene glycol, trehalose, xylose, glucose, sucrose, dextrose, dextran and ficoll.

19 ~~99~~ (New). A biosensor according to claim 16, wherein the water replacing substance is selected from the group consisting of glycerol, sucrose, dextran and trehalose.

20 ~~100~~ (New). A biosensor according to claim 16, wherein the rehydratable membrane is formed by contacting the lipid membrane with the water replacing substance followed by drying of the lipid membrane.

21 ~~101~~ (New). A biosensor according to claim 20, wherein the lipid membrane is contacted with an aqueous solution of the water replacing substance.

22 ~~102~~ (New). A biosensor according to claim 16, wherein the water-replacing substance is covalently bound to the lipid membrane.

b2 23 ~~103~~ (New). A biosensor according to claim 22, wherein the water-replacing substance is covalently bound to membrane components.

24 ~~104~~ (New). A biosensor according to claim ~~103~~ 23, wherein membrane components are membrane spanning lipids.

25 ~~105~~ (New). A biosensor comprising a rehydratable lipid membrane which has been prepared by a process comprising the steps of:

(i) mixing an aqueous solution containing membrane components, ionophores and optionally receptor molecules;

(ii) allowing the membrane to be formed in the aqueous solution, the conductivity of the formed membrane being dependent on the presence or absence of an analyte; and

(iii) separating the aqueous solution from the membrane in a manner such that the membrane does not come into contact with an air-water interface,

wherein the rehydratable lipid membrane is such that on rehydration, the lipid membrane and any receptor molecules retain their function, structure and activity.

82 cancel

REMARKS

This amendment is responsive to the Office Action dated May 8, 2001.

Claims 69-80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, claims 69-80 are rejected as being vague and incomplete as they lack antecedent support , and, further, recite improper Markush language.

Claims 69-73 and 76-80 have been canceled. Claims 74 and 75 are amended to overcome the above-mentioned rejection. The new dependent claims 83-105 have been added to more specifically and distinctly define the subject of the claimed invention.

Further, claims 69-80 are rejected under 35 USC 102(b) and 102(e) as being clearly